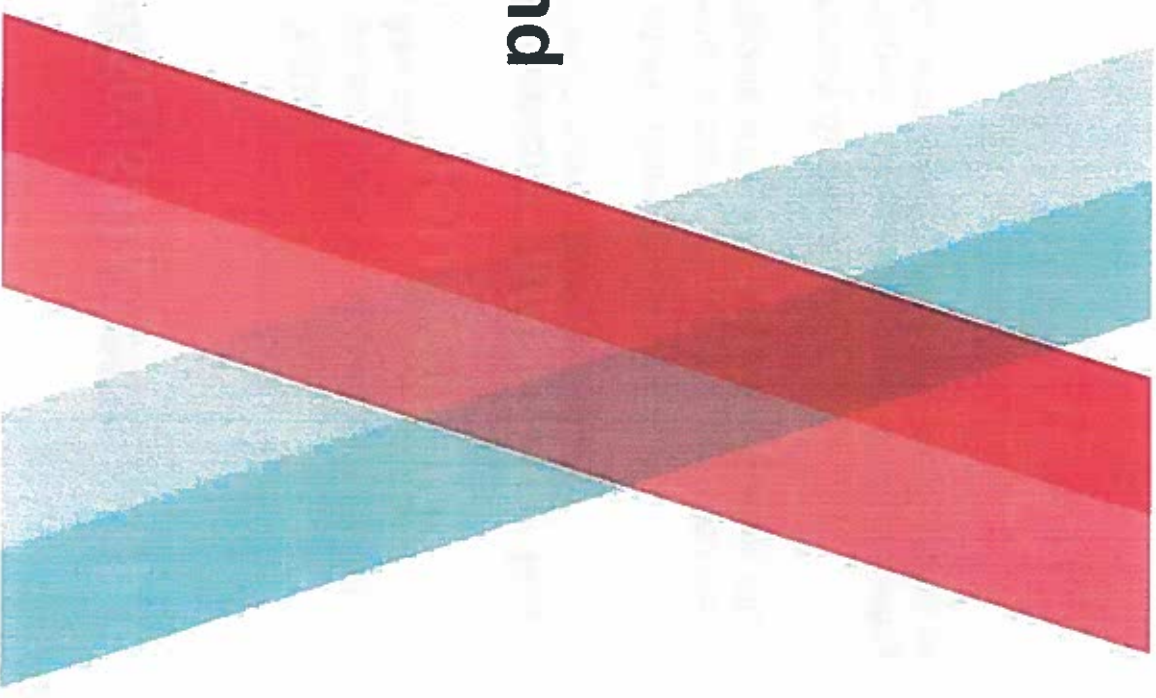


DENSO Overview

Michigan House – Workforce and Talent Development Committee

February 20, 2017



Global Supplier of Advanced Automotive Technology, Systems and Components with \$40.4 Billion in Sales

(As of March 31, 2017)

DENSO



1

Powertrain Control System

Engine management system, Gasoline direct injection, Hybrid components, Starter, Alternator, etc.

2

Thermal Systems

Heating Ventilation Air Conditioning (HVAC), Compressor, Heat exchangers, Battery thermal management, etc.

3

Information & Communications Systems

Instrument cluster, Head-up display, Human machine interface technologies, Horn, Keyless entry, Wireless phone charger, etc.

4

Driving Control & Safety Systems

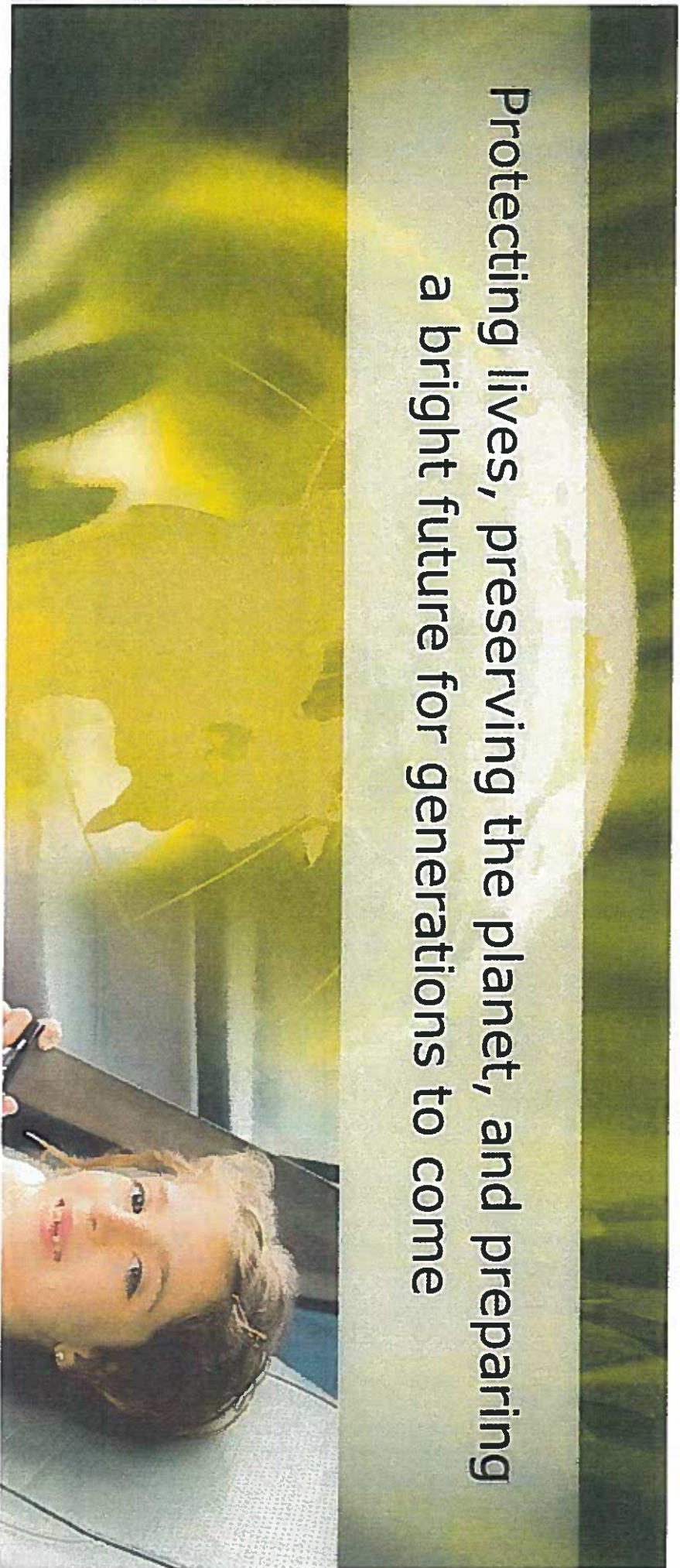
Passive safety technologies, Airbag sensing system, Active safety technologies, Traction control system, Antilock braking system, etc.

DENSO

Crafting the Core

DENSO Group 2020 Vision

Protecting lives, preserving the planet, and preparing
a bright future for generations to come

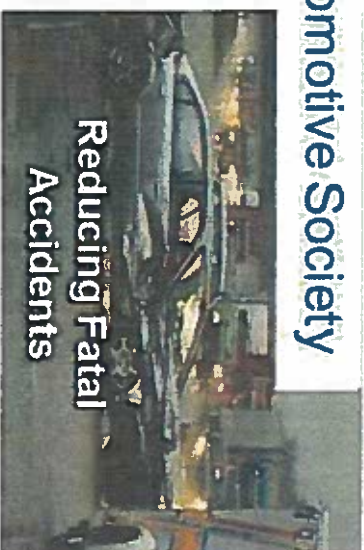


DENSO 2020 Vision

DENSO 2020 Vision

Issues for Automotive Society

Minimizing
Environmental Impact



Reducing Fatal
Accidents

**DENSO's Mission as a Leader
in the Auto Industry:**

**Minimize Environmental Impact
and Traffic Accidents for the
Benefit of Society.**

2025 Future Society

Road to Sustainable Growth

Building a society that maintains the global
environment and a good quality of life

Road to Respected Individual Life

Creating a society that respects every person of every
generation as an individual

DENSO OEM Customers



Toyota



General Motors



Ford

Others:

- ❖ **Honda**
- ❖ **Subaru**
- ❖ **Hyundai / Kia**

❖ **Mercedes-Benz**

❖ **BMW**

❖ **Volkswagen**

❖ **Caterpillar**

❖ **Case**

❖ **Paccar**

❖ **Cummins**

❖ **Freightliner**



John Deere

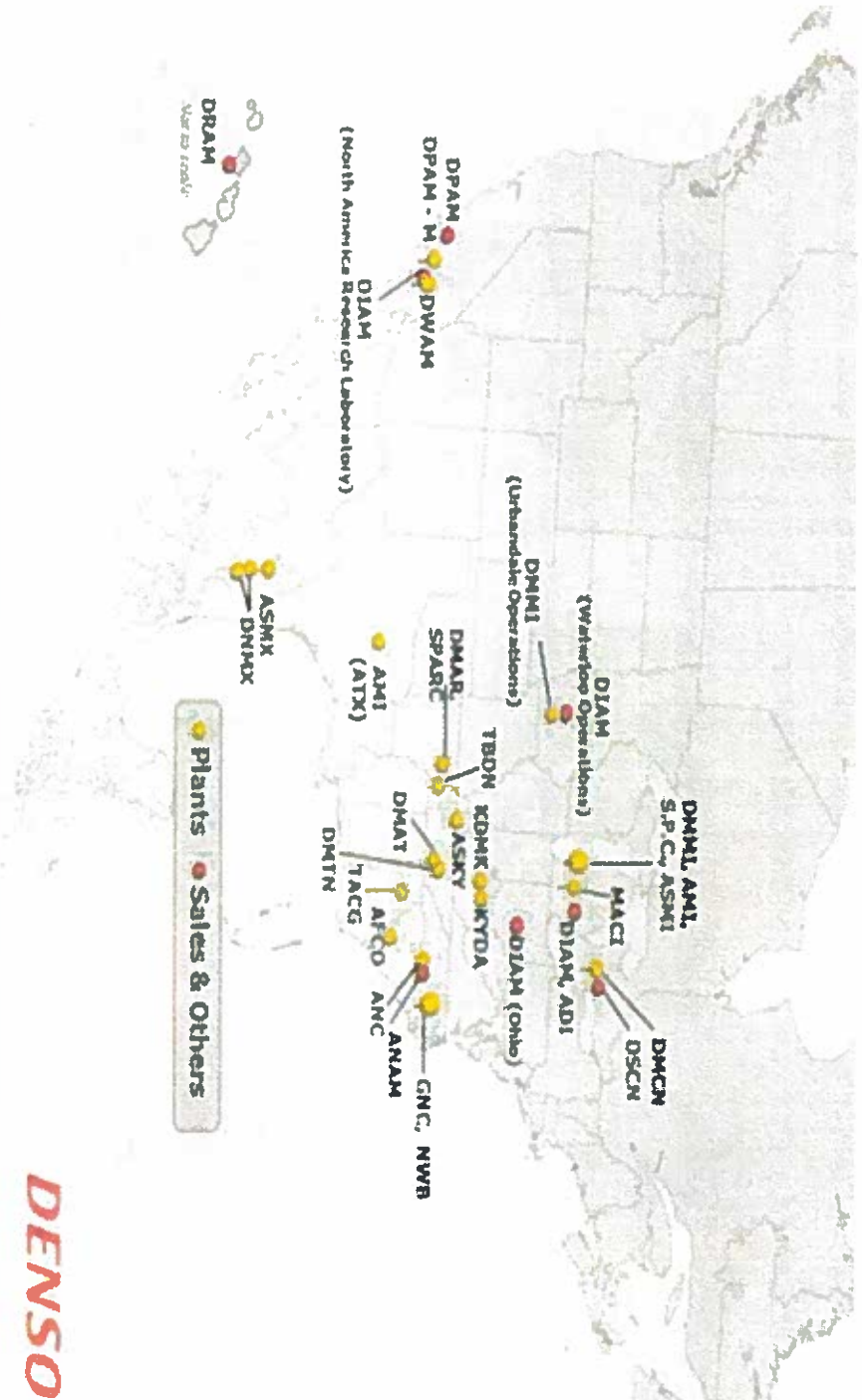


Harley Davidson



Fiat Chrysler

DENSO North America Profile



Net Sales	\$9.6 Billion
Companies	34 [13 States – 25 Manufacturing locations]
Employees	>25,000 [>16,000 U.S.]
Suppliers	> 9000 New Jobs since FY2012 [>5,000 U.S.]
Capital Investment	612 in 34 States [20,000 Supplier Jobs]
	\$4.8 Billion [>1.6 Billion since FY2012]

DENSO Operations in Michigan

Michigan Operations

Investment: \$1.2 Billion. (Since 2001)
 [+\$530 Million since 2012]
Associates: 6,162
 [+2000 Associates since 2012]

Suppliers: 153
 [# Michigan Suppliers]
Indirect Jobs: 30,800
 [Source: CAR*]



DENSO Manufacturing Michigan, Inc.
 Location: Battle Creek, MI
 Associates: 3,009



ASMO Manufacturing Michigan
 Location: Battle Creek, MI
 Associates: 301



DENSO Air Systems Michigan
 Location: Battle Creek, MI
 Associates: 308



System Products
 Location: Battle Creek, MI
 Associates: 351

Over 50 years
 in Michigan



DENSO International America, Inc.
 NA Headquarters
 Location: Southfield, MI
 Associates: 1,084



ASMO Detroit
 Location: Novi, MI
 Associates: 43



DENSO Logistics Michigan
 Location: Belleville, MI
 Associates: 24



Michigan Automotive Compressor, Inc.
 MACI
 Location: Parma, MI
 Associates: 1,042



Manufacturing



NA Headquarters



Technical Center



Logistics

DENSO
 Crafting the Core

*For every direct job in automotive supplier industry, 5 additional indirect jobs are created (Source: Center for Automotive Research (CAR))

DENSO Community & Education Investment

- **39,458 Total Volunteer Hours for Michigan**
 - Total DENSO Associate volunteer hours since 2005
- **\$26.7 million Total Contributions for Michigan**
 - DENSO company and associates contributions charitable organizations in Michigan since 2005
- **Over \$4 million in DENSO North America Foundation Contributions to Michigan Universities & Community Colleges**
 - Since 2001, DNAF has provided grants to 10 Michigan based Universities & Community Colleges

DENSO Workforce Development



[Needs]

- Engineers
 - [Product Development] Embedded Software, Autonomous Drive & Cyber-Security
 - [Manufacturing] Mechanical, Industrial, Design, Software
- Manufacturing
 - [Skilled Trades] Journeyman Maintenance Technicians, Electricians, Tool & Die
 - [Production] Shift Operators, Production Workers

[Challenges]

Skills Challenge

Let's start with a group of 24 kindergarten students...

1/3 of 4th graders have "lost an interest in science"

By 8th grade, "50% of students deemed science irrelevant to their education or future plans"

Only 32% of high school graduates are qualified to attend 4-year colleges

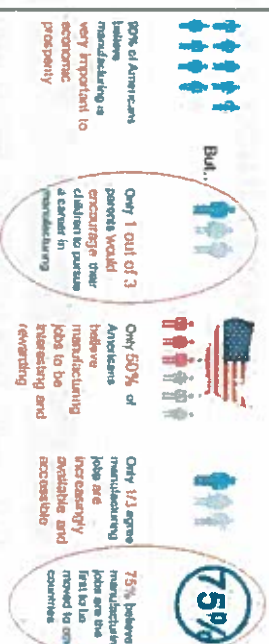
Career Path Challenge

Long-term Annual Average Openings and Bachelor's Degrees in STEM, Michigan



* Shortage in degrees for computing & Engineering

Perception Challenge



DENSO Workforce Development



Preparing Future Automotive Talent - STEM* Pipe Line –

- DENSO is committed to supporting STEM initiatives in local communities to support education and develop the future automotive workforce

*STEM = Science, Technology, Engineering & Math

STEM (Science, Technology, Engineering & Math) Initiatives

First Robotics	<ul style="list-style-type: none"> •Sponsoring 18 Michigan based teams & 2 competitions •Provide <u>all the motors</u> to FIRST Robotics Kits (over 180,000 electric motors)
Project Lead the Way (PLTW)	<ul style="list-style-type: none"> •Sponsoring 2 curricular based PLTW programs in the Battle Creek Area
Robofest	<ul style="list-style-type: none"> •Lead sponsor for LTU Multi-grade robotics competition reaching over 2,000 students on over 900 teams
Cranbrook Institute of Science	<ul style="list-style-type: none"> •Sponsor curricular supplement for all third & fourth grade classes in Southfield Public Schools reaching over 2000 students, teachers and family members

DENSO

Crafting the Core

DENSO Workforce Development



Attraction & Development of Next Automotive Talent

- DENSO is actively engaged in many activities to develop & attract the next generation of automotive talent

Attraction & Development of Future Automotive Talent

- Actively recruiting at more than **30** Universities across US & Canada
- Over **160** Co-ops & Interns working at DENSO Michigan Operations
- Sponsor University Engineering Teams & Events (SAE Formula, Mini-Baja, Clean Snowmobile, Eco-Car, etc.)
- Host Manufacturing Day Events to promote manufacturing careers to students, teachers, parents and community

DENSO Workforce Development



Developing DENSO Workforce to support the evolving Mobility Market

- DENSO is forming key partnerships and implementing a number of initiatives to support our associate development and growth

Developing DENSO Workforce to support the evolving Mobility Market

- **Key Partnerships for Developing DENSO Workforce:**

- State of Michigan (Michigan New Jobs Training Program (MNJTP), Skilled Trade Training Fund (STTF))
- Regional Manufacturing Training Center (KCC)
- Universities and Community Colleges

- **Key Internal Programs:**

- Annual Training Programs
- Apprenticeship Program
- Associate Tuition Reimbursement Assistance
- Regional Training Academy for Advanced Manufacturing

We thank the State of Michigan and Partners for the strong commitment and continuing support to build and sustain a High Tech Workforce



DENSO

Crafting the Core